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Department of
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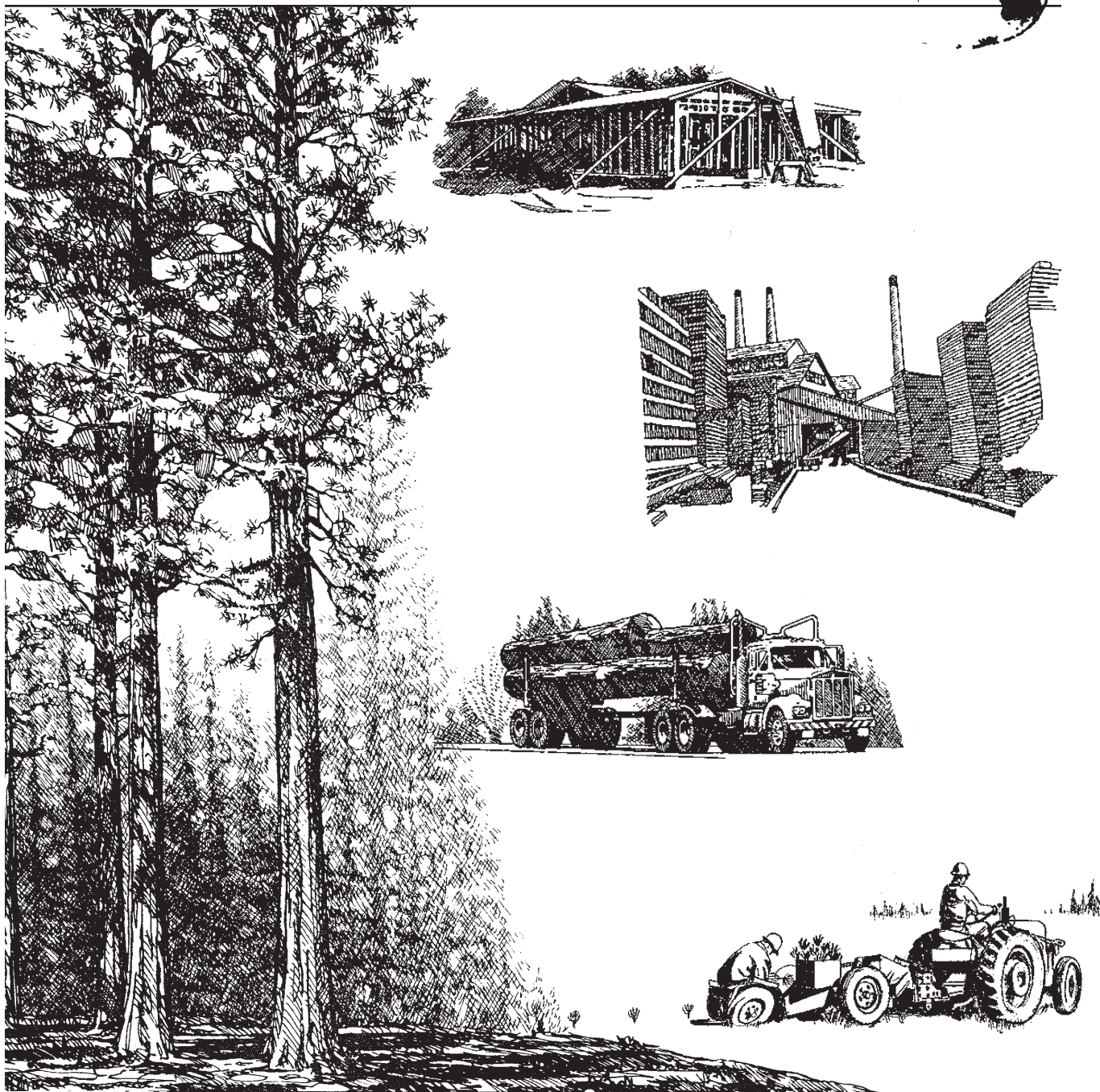
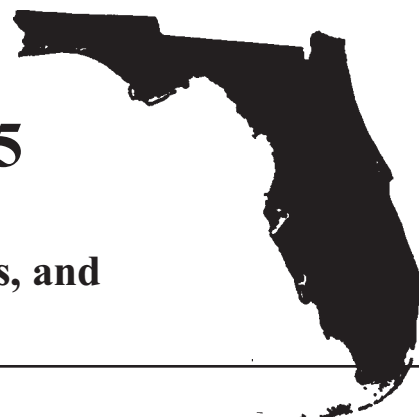


Southern Research
Station

Resource Bulletin
SRS-13

Florida's Timber Industry— An Assessment of Timber Product Output and Use, 1995

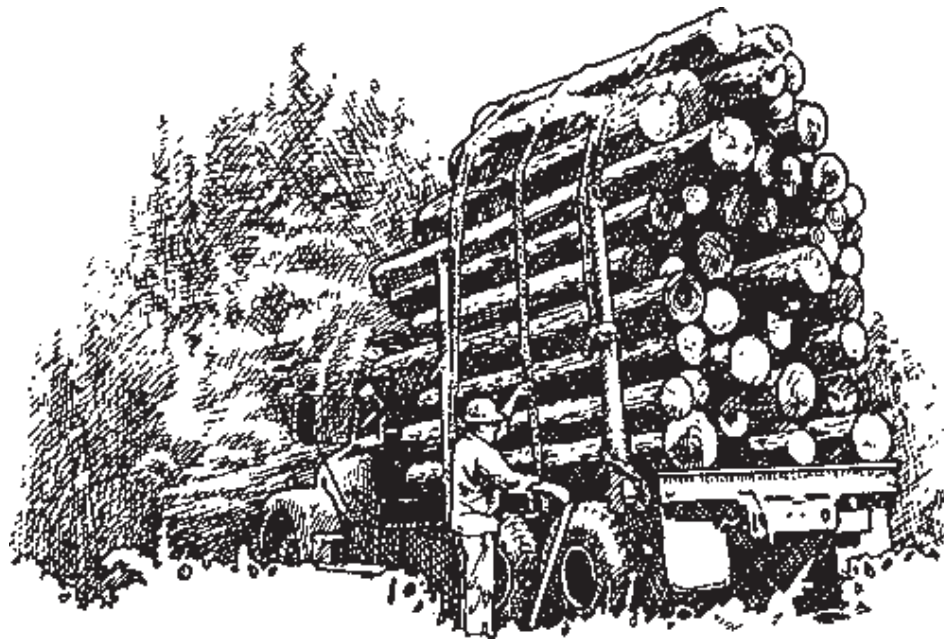
Tony G. Johnson, Anne Jenkins, and
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Foreword

This report contains the findings of a 1995 canvass of all primary wood-using plants in Florida and presents changes in product output and residue use since 1993. It complements the Forest Inventory and Analysis (FIA) periodic inventory of volume and removals from the State's timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain by county in 1995 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A 100-percent canvass of all wood processors in Florida was conducted in 1996 to obtain information for 1995. Out-of-State mills known to be using logs or bolts harvested from Florida timberland were also contacted. Each mill was canvassed by mail or through personal contact at plant locations. Telephone contacts followed mailed questionnaire responses when additional information or clarification of response was necessary. In the event of a nonresponse, data collected in previous surveys were updated by current data collected for mills of

similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1958, and are currently conducted every 2 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills, conducted annually in cooperation with the American Pulpwood Association. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

The Southern Research Station gratefully acknowledges the cooperation and assistance provided by the Florida Department of Agriculture and Consumer Services, Division of Marketing and Utilization in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information. The information in this report is based on responses from 73 percent of mills operating in 1995; 8 pulpmills, 5 veneer mills, 27 of the 32 mills manufacturing other industrial products, and 43 of the 68 sawmills. These mills accounted for 89 percent of the 1995 mill receipts.

For inventory and reporting purposes, FIA divides Florida into four survey units: Northeast, Northwest, Central, and South. Because output of industrial roundwood products from South Florida is much smaller than output from the other units, the Central and South Florida units were combined for reporting purposes in this Bulletin and are referred to as "Central-South Florida."

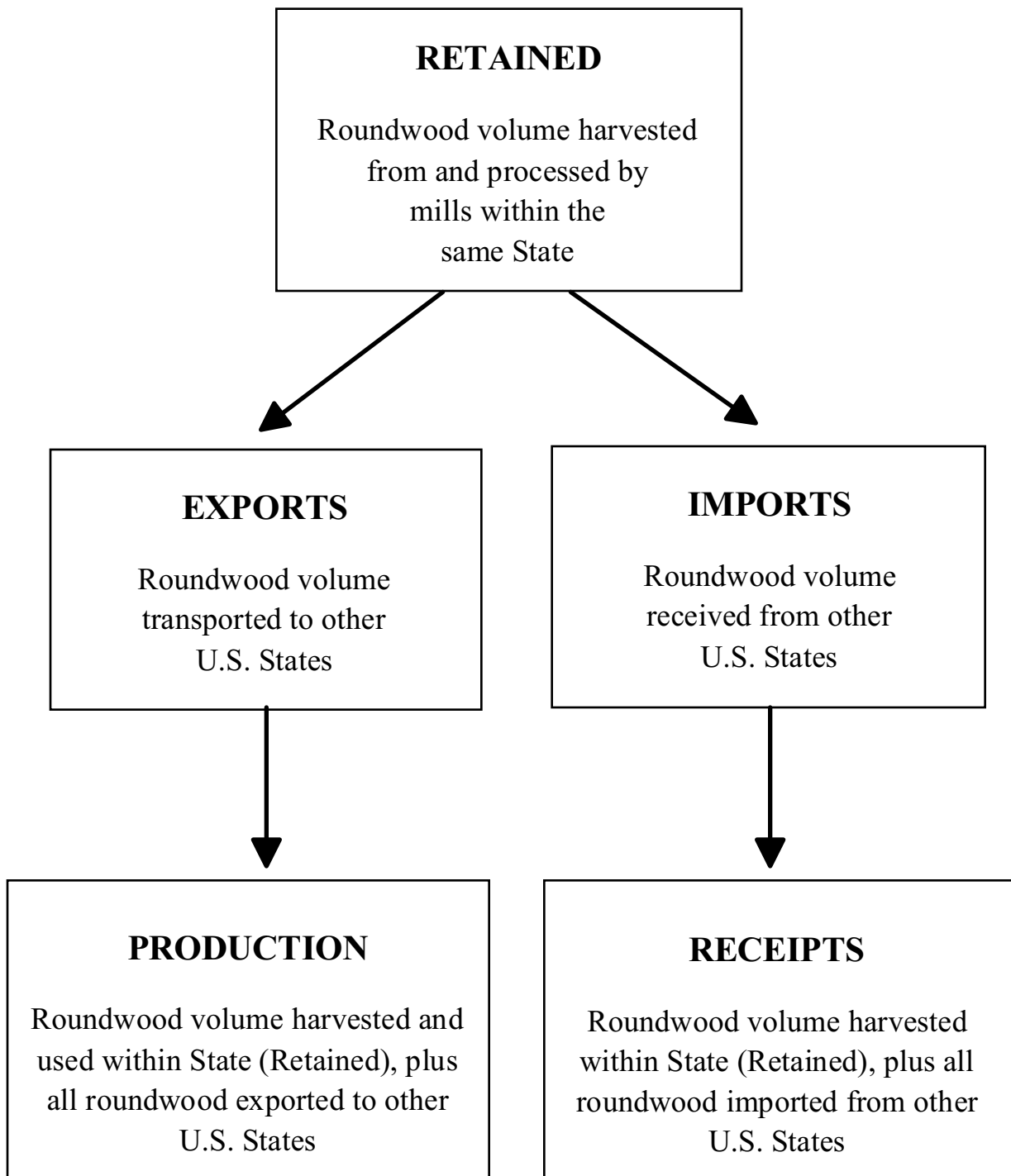


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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½- or 5¼-inch diskettes.

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Production = Retained + Exports

Receipts = Retained + Imports

Figure 1—Movement of roundwood exports and imports within the United States.

Florida's Timber Industry— An Assessment of Timber Product Output and Use, 1995

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Output of Industrial Timber Products

Note: The reader must understand that certain terms—retained, export, import, production, and receipts—have specialized meanings and relationships unique to the Forest Inventory and Analysis Units across the country that deal with timber products output (fig. 1).

- Between 1993 and 1995, the combined industrial timber products output (TPO) from roundwood and plant byproducts declined slightly from 691 to 689 million cubic feet.
- Timber product output from roundwood was up 9 million cubic feet or 2 percent, while output of plant byproducts dropped 11 million cubic feet.
- Output of softwood roundwood products increased almost 2 percent to 476 million cubic feet, while hardwood roundwood products increased 2 percent to 51 million cubic feet (fig. 2).

- Pulpwood and saw logs were the principal roundwood products in 1995. Combined output of these two products totaled more than 474 million cubic feet and accounted for 90 percent of the State's total roundwood output (fig. 3).
- Total receipts at Florida mills, which included roundwood harvested and retained in the State and roundwood imported from other States, increased 3 percent to 566 million cubic feet. At the same time, the number of primary roundwood-using plants in Florida increased from 109 in 1993 to 113 in 1995.

Pulpwood

- Pulpwood production, including chipped roundwood, increased 17 million cubic feet to 321 million cubic feet (4.5 million cords) and accounted for 61 percent of the State's total roundwood TPO. Softwood output increased 7 percent to 281 million cubic feet, while hardwood output declined 3 percent to 40 million cubic feet (fig. 4).

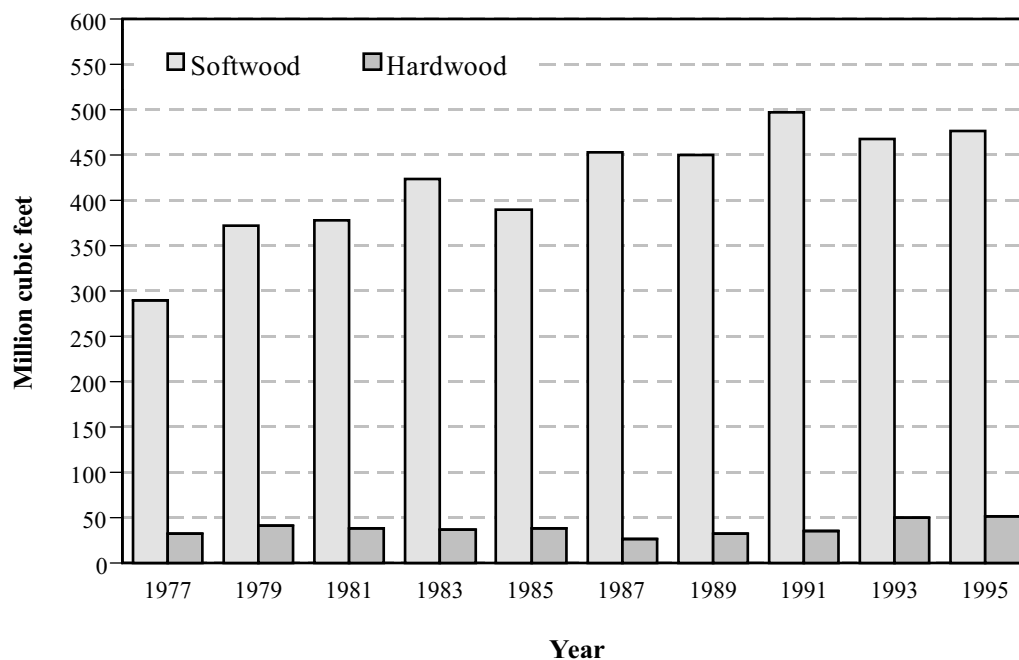


Figure 2—Roundwood production for all products, by species group and year.

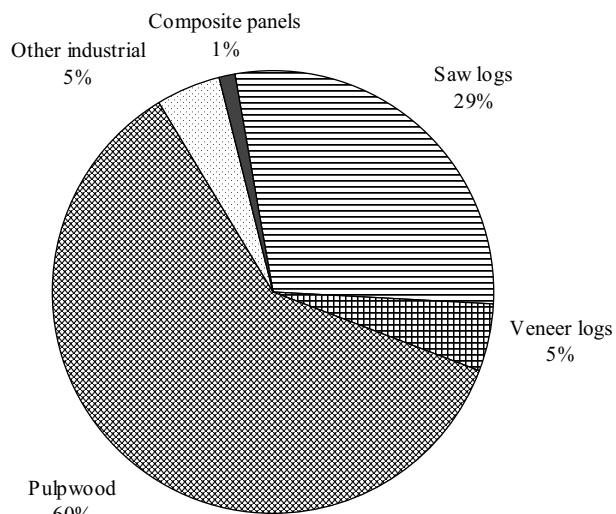


Figure 3—Roundwood production, by type of product, 1995.

- Eight pulpmill facilities were operating and receiving roundwood in Florida in 1995, the same as in 1993. Total pulpwood receipts for these mills increased 27 thousand cubic feet to 362 million cubic feet, accounting for 64 percent of total receipts for all mills.

- Nearly 85 percent of roundwood cut for pulpwood was retained for processing at Florida pulp mills. Roundwood pulpwood accounted for 62 percent of total known exports and 76 percent of total imports. Roundwood pulpwood imports amounted to 89 million cubic feet, or 41 million cubic feet more than was exported.

Saw Logs

- Saw logs accounted for 29 percent of the State's total roundwood products. Output of softwood saw logs fell 1 percent to 147 million cubic feet (769 million board feet), while that of hardwood saw logs increased 39 percent to 6 million cubic feet (36 million board feet) (fig. 5).
- Florida currently has 68 sawmills, a gain of 4 mills since 1993. Total saw-log receipts declined nearly 4 million cubic feet to 149 million cubic feet. Softwood saw-log receipts were down 4 percent to 142 million cubic feet while those of hardwoods increased 62 percent to 6 million cubic feet. Of the 68 mills currently operating, 51 percent had receipts less than 1 million board feet while only 26 percent had receipts greater than 10 million board feet.
- Florida retained 86 percent of its saw-log production for domestic manufacture, with saw-log exports exceeding imports by more than 4 million cubic feet in 1995.

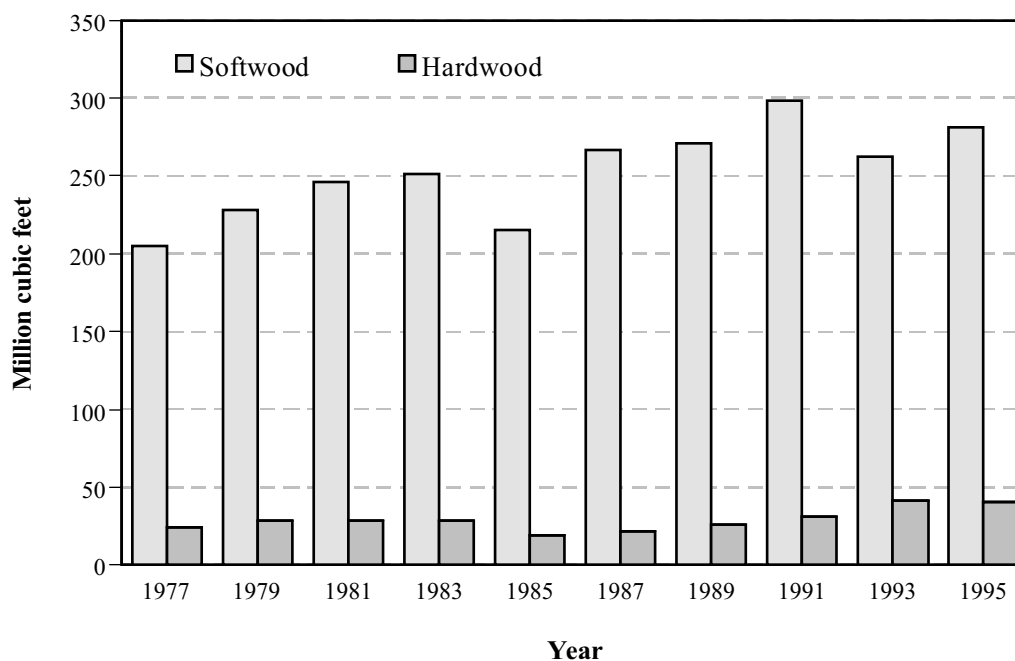


Figure 4—Roundwood pulpwood production, by species group and year.

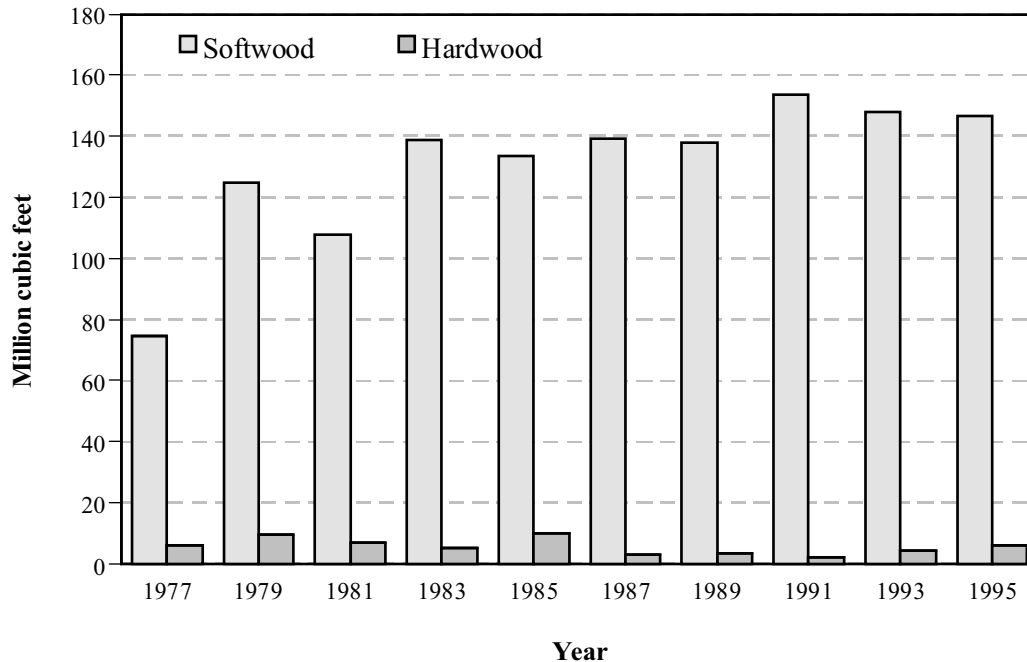


Figure 5—Roundwood saw-log production, by species group and year.

Veneer Logs

- Output of veneer logs in 1995 totaled 26 million cubic feet, and accounted for 5 percent of the State's total roundwood TPO volume. Softwood veneer production declined almost 15 percent to 24 million cubic feet (142 million board feet), while output of hardwood veneer logs increased nearly 16 percent to 1.8 million cubic feet (11.2 million board feet) (fig. 6).
- The number of veneer mills operating in Florida remained at five. Receipts of veneer logs decreased 7 percent to 33 million cubic feet. Softwood veneer receipts decreased 2 million cubic feet to 31 million cubic feet.
- Florida retained 89 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 9 million cubic feet, while exports totaled about 3 million cubic feet.

Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, mulch, firewood, logs for log homes, and all other industrial products declined 18 percent to 24 million cubic feet. Softwood made up 99 percent of the other industrial product volume (fig. 7).

- The number of plants producing other industrial products remained at 32. Combined receipts of both softwood and hardwood other industrial products declined 10 percent to 23 million cubic feet.
- Florida was a net exporter of roundwood used for other industrial products; all of the 3 million cubic feet exported was softwood.

Plant Byproducts

- In 1995, processing of primary products in Florida mills generated nearly 162 million cubic feet of wood and bark residues. Coarse residues from all primary products and bark volume contributed nearly equal amounts at 60 million cubic feet and 59 million cubic feet, respectively (fig. 8).
- Virtually all residues were used for a product (fig. 9). More than 44 million cubic feet, or 75 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 70 percent of the sawdust and shavings were used for industrial fuel.
- Sawmills generated 86 million cubic feet of mill residues, accounting for 53 percent of the total residues produced (fig. 10).

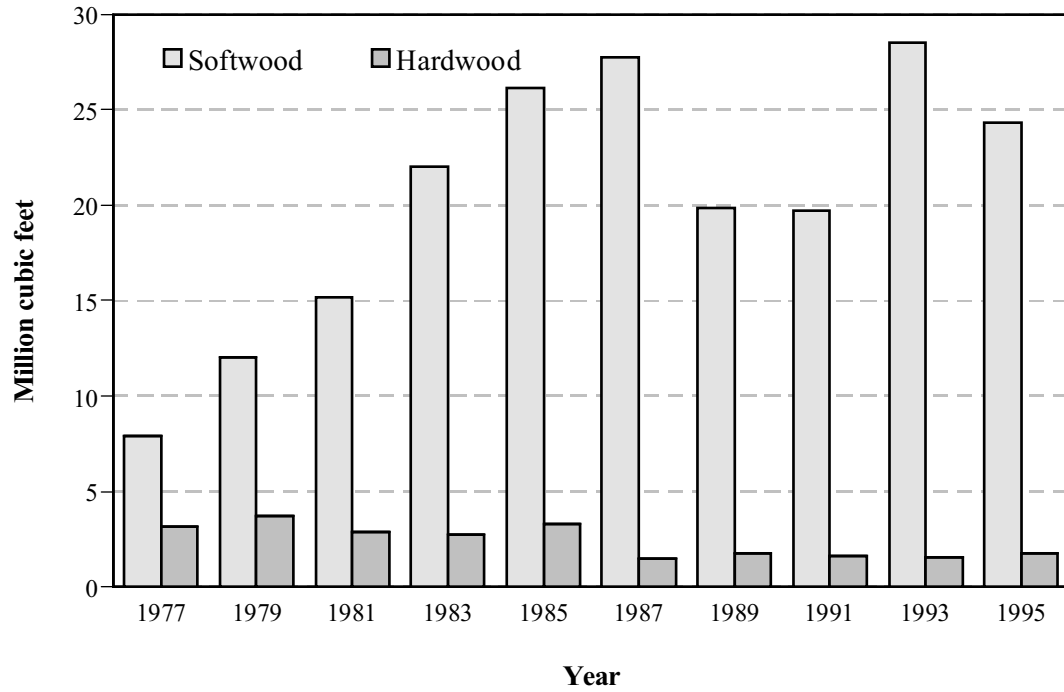


Figure 6—Roundwood veneer-log production, by species group and year.

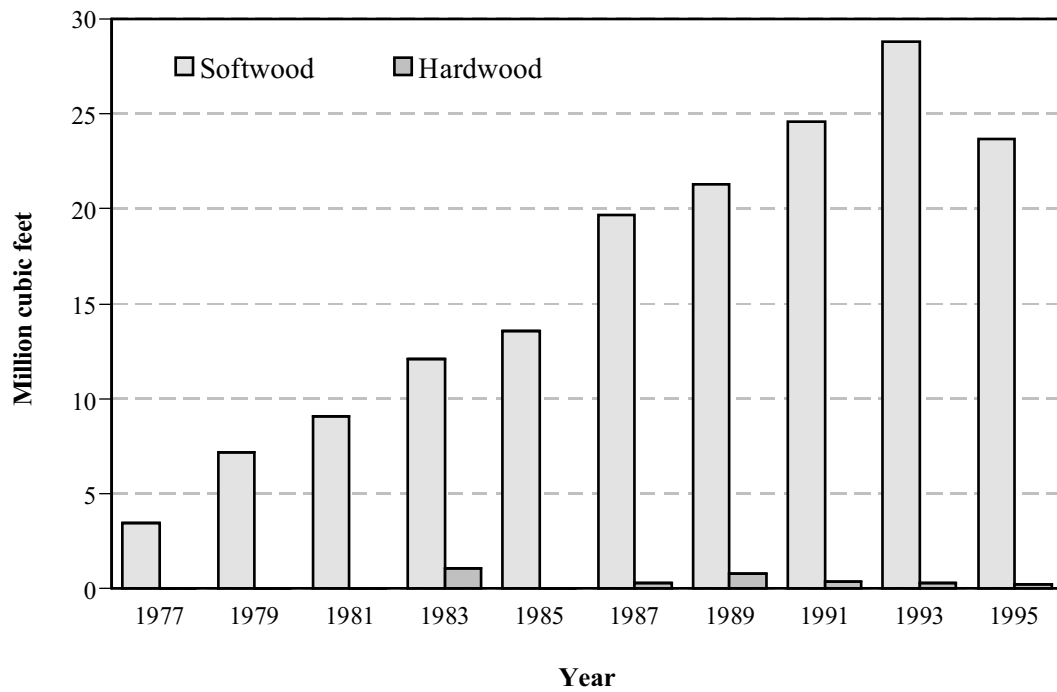


Figure 7—Roundwood production for other industrial, by species group and year.

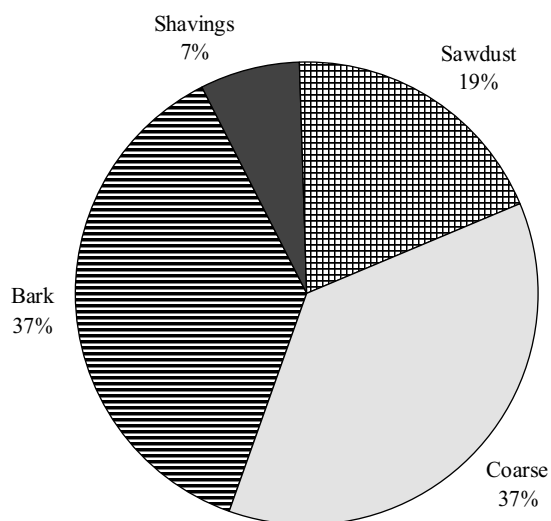


Figure 8—Primary mill residue, by residue type.

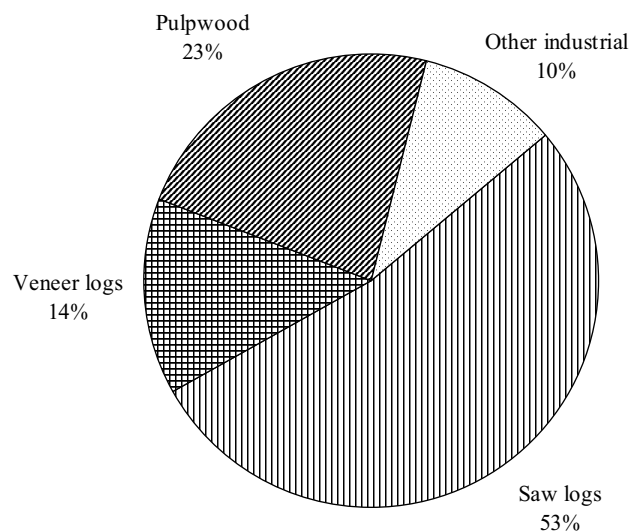


Figure 10—Primary mill residue produced by mill type.

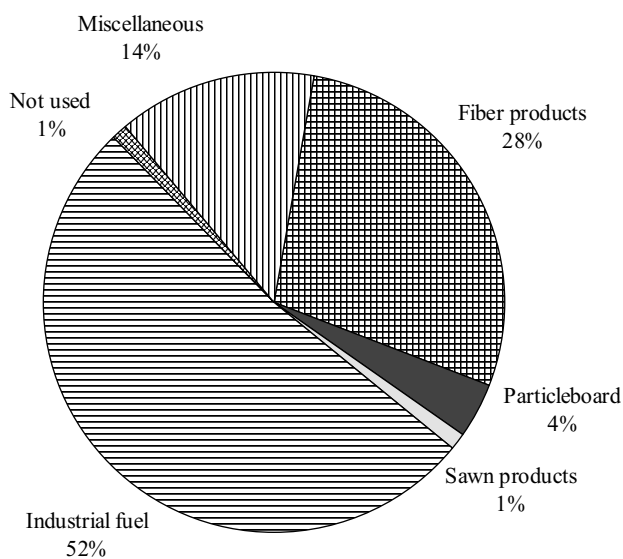


Figure 9—Disposal of residue, by product.

Regional Trends

- Output of industrial roundwood products declined in all but the Northwest Florida region. Pulpwood, down 1 percent from 1993, was the leading product in all regions.

Northeast Region

- Roundwood output from the Northeast Florida region totaled 314 million cubic feet.
- Pulpwood accounted for 58 percent of the region's TPO and 56 percent of the State's roundwood pulpwood output.
- In the Northeast region, 63 primary wood-using plants were operating during 1995: 37 sawmills, 3 veneer or plywood mills, 5 pulpmills, and 18 other miscellaneous mills (fig 11).

Northwest Region

- Nearly 183 million cubic feet of roundwood were produced in the Northwest Florida region, an increase of 9 percent.
- Pulpwood accounted for 68 percent of the total TPO; saw-log production of nearly 46 million cubic feet accounted for another 25 percent of the region's total roundwood output.

Source

- In addition to the 527 million cubic feet of roundwood output for industrial roundwood, an estimated 27 million cubic feet was harvested for domestic fuelwood bringing Florida's total roundwood output to 554 million cubic feet.
- Nearly 90 percent was considered growing-stock volume from timberland sources, with other sources contributing an estimated 56 million cubic feet, or 10 percent of total roundwood output (fig. 12).

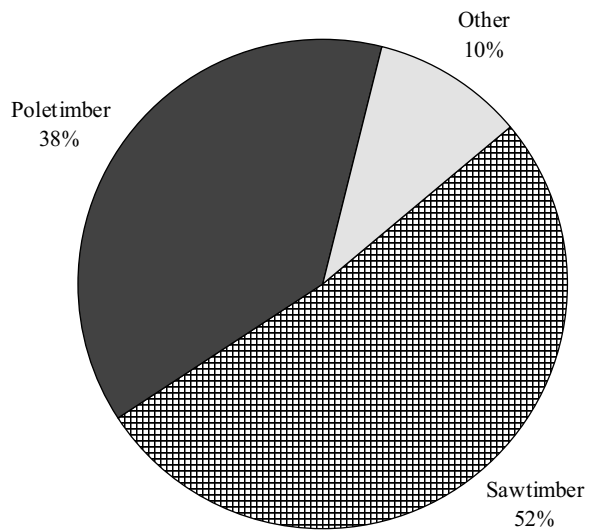


Figure 12—Total roundwood output, by source.

Ownership

- Two hundred fifty-four million cubic feet, or about 46 percent, of the total roundwood output came from forest industry lands. Nonindustrial private forest lands (NIPF) contributed 250 million cubic feet, or 45 percent of the output. Public lands made up the remaining 9 percent, or nearly 50 million cubic feet (fig. 13).

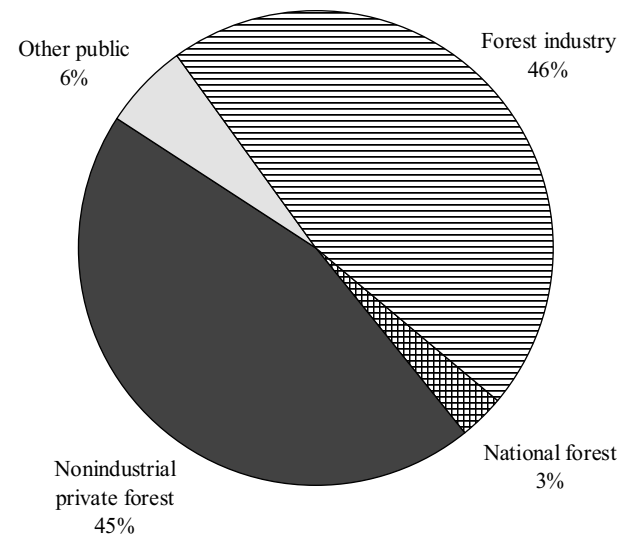


Figure 13—Total roundwood output, by ownership.

Species

- Longleaf and slash pine combined accounted for nearly 78 percent of total softwood output. For hardwoods the red oak and white oak groups combined accounted for 35 million cubic feet of total output, about 48 percent.

Definitions

Board feet. Unit of measure applied to roundwood. It relates to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent).

Composite panels. Consists of structural panels (oriented strand board or waferboard), particleboard (industrial underlayment, thin panelboard).

Consumption. The quantity of a commodity, such as pulpwood, utilized.

Drain. The volume of roundwood removed from any geographic area where timber is grown.

Exports. The volume of roundwood utilized by mills outside the State where timber was cut.

Imports. The volume of roundwood delivered to a mill or group of mills in a specific State but harvested from outside that particular area.

Industrial fuelwood. A roundwood product, with or without bark, used to generate energy at a manufacturing facility such as a wood-using mill.

Industrial roundwood products. Any primary use of the main stem of a tree, such as saw logs, poles, pilings, veneer logs, pulpwood, posts, or cooperage logs.

Log. A primary forest product harvested in long, primarily 8-foot lengths.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Suitable for chipping such as slabs, edgings, trim, veneer cores, and ends.

Fine residues. Not suitable for chipping such as sawdust, shavings, and veneer clippings.

Primary wood-using plants. Industries that receive roundwood or chips from roundwood for the manufacture of products such as veneer, pulp, and lumber.

Production. The total volume of roundwood harvested from land within the specified State, regardless of where consumed. Production is the sum of timber harvested and used within the State, plus all roundwood exported to other U.S. States.

Pulpwood. A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products as well as chipboard, fiberboard, insulating board, and paperboard.

Receipts. The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States in the United States.

Retained. Roundwood volume harvested from and processed by mills within the same State.

Roundwood. Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer use.

Roundwood chipped. Any timber cut primarily for industrial manufacture, delivered to nonpulpmills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, and whole trees.

Roundwood product drain. That portion of total drain used for a product.

Saw log. A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with minimum diameter inside bark of 6 inches for softwoods and 8 inches for hardwoods.

Standard cord. A unit measure applied to roundwood, usually bolts or split wood. It relates to a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. In Florida, this usually translates to 74.8 cubic feet of solid wood for pulpwood, since pulpwood is more uniform.

Timber products output. Roundwood production in an area's forests (equals roundwood product drain).

Timber removals. The merchantable volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use.

Veneer log. Logs to be used in the production of plywood, finished panels, or veneer sheets, both rotary cut and sliced.

Conversion Factors^a

Saw logs

Softwood	0.19121 cubic foot = 1 board foot 5.23 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot 5.95 board feet = 1 cubic foot

Veneer logs

Softwood	0.17241 cubic foot = 1 board foot 5.80 board feet = 1 cubic foot
Hardwood	0.16129 cubic foot = 1 board foot 6.20 board feet = 1 cubic foot

Pulpwood^b

Softwood	71.00 cubic feet/cord
Hardwood	75.00 cubic feet/cord

^a Conversion factors vary with stem size (d.b.h.) and species.

The factors shown are for trees of average diameters removed in Florida during the latest survey period.

^b Cubic feet of solid wood per cord.

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Table 1—Output of industrial products by product and species group, Florida, 1993 and 1995

Product and species group	Year		Change	Percent change
	1993	1995		
Thousand cubic feet				
Saw logs				
Softwood	148,044	146,856	-1,188	-0.8
Hardwood	4,365	6,078	1,713	39.2
Total	152,409	152,934	525	0.3
Veneer logs				
Softwood	28,478	24,347	-4,131	-14.5
Hardwood	1,559	1,802	243	15.6
Total	30,037	26,149	-3,888	-12.9
Pulpwood ^a				
Softwood	262,372	280,917	18,545	7.1
Hardwood	41,384	40,094	-1,290	-3.1
Total	303,756	321,011	17,255	5.7
Composite panels				
Softwood	360	0	-360	-100.0
Hardwood	2,581	3,012	431	16.7
Total	2,941	3,012	71	2.4
Other industrial				
Softwood	28,795	23,697	-5,098	-17.7
Hardwood	336	231	-105	-31.3
Total	29,131	23,928	-5,203	-17.9
All industrial				
Softwood	468,049	475,817	7,768	1.7
Hardwood	50,225	51,217	992	2.0
Total	518,274	527,034	8,760	1.7
Byproduct output				
Softwood	162,198	149,683	-12,515	-7.7
Hardwood	10,337	11,879	1,542	14.9
Total	172,535	161,562	-10,973	-6.4
Total output				
Softwood	630,247	625,500	-4,747	-0.8
Hardwood	60,562	63,096	2,534	4.2
Total	690,809	688,596	-2,213	-0.3

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (12,336,000 cubic feet in 1993 and 5,998,000 cubic feet in 1995).

**Table 2—Roundwood receipts by product and species group,
Florida, 1993 and 1995**

Product and species group	Year		Change	Percent change
	1993	1995		
Thousand cubic feet				
Saw logs				
Softwood	148,547	142,208	-6,339	-4.3
Hardwood	3,979	6,457	2,478	62.3
Total	152,526	148,665	-3,861	-2.5
Veneer logs				
Softwood	33,514	31,223	-2,291	-6.8
Hardwood	1,486	1,482	-4	-0.3
Total	35,000	32,705	-2,295	-6.6
Pulpwood ^a				
Softwood	289,359	308,007	18,648	6.4
Hardwood	45,637	53,778	8,141	17.8
Total	334,996	361,785	26,789	8.0
Composite panels				
Softwood	0	0	0	0
Hardwood	0	0	0	0
Total	0	0	0	0
Other industrial				
Softwood	24,758	22,290	-2,468	-10.0
Hardwood	341	231	-110	-32.3
Total	25,099	22,521	-2,578	-10.3
Total output				
Softwood	496,178	503,728	7,550	1.5
Hardwood	51,443	61,948	10,505	20.4
Total	547,621	565,676	18,055	3.3

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (12,336,000 cubic feet in 1993 and 6,591,000 cubic feet in 1995).

Table 3—Number of primary wood-using plants by industry, Florida, 1979-1995

Industry	Year							
	1979	1983	1986	1987	1989	1991	1993	1995
Sawmills	112	108	106	97	85	71	64	68
Veneer mills	10	10	6	5	5	5	5	5
Pulpmills	10	9	9	10	9	9	8	8
Composite panel mills	0	0	0	0	0	0	0	0
Other mills	16	16	30	31	28	30	32	32
All plants	148	143	151	143	127	115	109	113

Table 4—Roundwood receipts by sawmill size, Florida, 1993 and 1995

Sawmill size class ^a	1993			1995		
	Number of mills	Thousand board feet	Percent of volume	Number of mills	Thousand board feet	Percent of volume
<i>Million board feet</i>						
< 1.0	30	6,533	1	35	9,692	1
1.0 - 4.99	12	29,125	4	10	22,479	3
5.0 - 9.99	4	24,550	3	5	34,962	5
10.0 - 49.99	11	238,585	30	11	222,606	28
> 50	7	494,152	62	7	493,272	63
Total	64	792,945	100	68	783,011	100

^a Based on volume received as opposed to actual capacity.

Table 5—Roundwood receipts by species and type of mill, Florida, 1995

Species	Type of mill						
	All	Veneer mills			OSB and	Pulpmills ^b	Other mills
	mills	Sawmills	Pine plywood	Other veneer	panels ^a		
Thousand cubic feet							
Softwood							
Yellow pine	170,824	133,677	31,223	0	0	NA	5,924
Eastern white pine	0	0	0	0	0	NA	0
Cedar	99	82	0	0	0	NA	17
Cypress	24,767	8,420	0	0	0	NA	16,347
Other softwood	31	29	0	0	0	NA	2
Unclassified	308,007	0	0	0	0	308,007	0
Total softwoods	503,728	142,208	31,223	0	0	308,007	22,290
Hardwood							
Blackgum and tupelo	266	157	0	109	0	NA	0
Soft maple	68	68	0	0	0	NA	0
Sweetgum	1,313	882	33	398	0	NA	0
Yellow-poplar	807	111	134	562	0	NA	0
Other soft hardwood	1,499	1,329	0	170	0	NA	0
Hickory	101	88	0	4	0	NA	9
Red oak	1,635	1,523	0	57	0	NA	55
White oak	368	331	0	10	0	NA	27
Other hard hardwood	2,113	1,968	0	5	0	NA	140
Unclassified	53,778	0	0	0	0	53,778	0
Total hardwoods	61,948	6,457	167	1,315	0	53,778	231
All species	565,676	148,665	31,390	1,315	0	361,785	22,521

NA = not applicable.

^a OSB = oriented strand board.^b Only collected by softwood and hardwood and includes roundwood chipped.**Table 6—Industrial roundwood movement by year and species group, Florida, 1993 and 1995**

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Softwood					
1993	468,049	57,651	410,398	85,780	496,178
1995	475,817	61,853	413,964	89,764	503,728
Hardwood					
1993	50,225	14,963	35,262	16,181	51,443
1995	51,217	16,718	34,499	27,449	61,948
All species					
1993	518,274	72,614	445,660	101,961	547,621
1995	527,034	78,571	448,463	117,213	565,676

Table 7—Industrial roundwood movement by product and species group, Florida, 1995

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	146,856	20,918	125,938	16,270	142,208
Hardwood	6,078	198	5,880	577	6,457
Total	152,934	21,116	131,818	16,847	148,665
Veneer logs					
Softwood	24,347	2,380	21,967	9,256	31,223
Hardwood	1,802	451	1,351	131	1,482
Total	26,149	2,831	23,318	9,387	32,705
Pulpwood^a					
Softwood	280,917	35,649	245,268	62,739	308,007
Hardwood	40,094	13,057	27,037	26,741	53,778
Total	321,011	48,706	272,305	89,480	361,785
Composite panels					
Softwood	0	0	0	0	0
Hardwood	3,012	3,012	0	0	0
Total	3,012	3,012	0	0	0
Other industrial					
Softwood	23,697	2,906	20,791	1,499	22,290
Hardwood	231	0	231	0	231
Total	23,928	2,906	21,022	1,499	22,521
Total output					
Softwood	475,817	61,853	413,964	89,764	503,728
Hardwood	51,217	16,718	34,499	27,449	61,948
Total	527,034	78,571	448,463	117,213	565,676

^a Includes roundwood chipped.

Table 8—Saw-log volume by destination, source, and species group, Florida, 1995

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Florida (retained)	131,818	125,938	5,880
Exports to:			
Alabama	6,047	6,047	0
Georgia	15,069	14,871	198
Total	21,116	20,918	198
Imports from:			
Alabama	7,008	6,988	20
Georgia	9,703	9,156	547
North Carolina	76	66	10
South Carolina	60	60	0
Total	16,847	16,270	577

Table 9—Veneer volume by destination, source, and species group, Florida, 1995

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Florida (retained)	23,318	21,967	1,351
Exports to:			
Alabama	2,633	2,380	253
Georgia	198	0	198
Total	2,831	2,380	451
Imports from:			
Alabama	585	585	0
Georgia	8,802	8,671	131
Total	9,387	9,256	131

Table 10—Pulpwood volume by destination, source, and species group, Florida, 1995^a

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Florida (retained)	272,305	245,268	27,037
Exports to:			
Alabama	8,885	6,467	2,418
Georgia	39,821	29,182	10,639
Total	48,706	35,649	13,057
Imports from:			
Alabama	28,645	17,235	11,410
Georgia	54,502	43,243	11,259
Kentucky	1,606	0	1,606
Mississippi	259	202	57
North Carolina	552	552	0
South Carolina	419	419	0
Tennessee	2,409	0	2,409
Virginia	1,088	1,088	0
Total	89,480	62,739	26,741

^a Includes roundwood chipped that was delivered to nonpulp mills and then chipped and sold to pulpmills.

Table 11—Composite panel volume by destination, source, and species group, Florida, 1995

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
Florida (retained)	0	0	0
Exports to:			
Georgia	3,012	0	3,012
Total	3,012	0	3,012

Table 12—Other industrial volume by destination, source, and species group, Florida, 1995^a

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Florida (retained)	21,022	20,791	231
Exports to:			
Alabama	1,692	1,692	0
Georgia	1,214	1,214	0
Total	2,906	2,906	0
Imports from:			
Alabama	158	158	0
Georgia	1,303	1,303	0
North Carolina	19	19	0
South Carolina	19	19	0
Total	1,499	1,499	0

^a Includes poles, posts, mulch, firewood, log homes, charcoal, and all other industrial mills.

Table 13—Primary mill residue volume by roundwood type, species group, and residue type, Florida, 1995

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
Thousand cubic feet					
Saw logs					
Softwood	81,849	11,815	38,707	19,662	11,665
Hardwood	4,085	737	1,988	1,356	4
Total	85,934	12,552	40,695	21,018	11,669
Veneer logs					
Softwood	20,790	2,880	10,060	7,850	0
Hardwood	1,112	177	478	457	0
Total	21,902	3,057	10,538	8,307	0
Pulpwood					
Softwood	30,486	30,486	0	0	0
Hardwood	6,635	6,635	0	0	0
Total	37,121	37,121	0	0	0
Composite panels					
Softwood	0	0	0	0	0
Hardwood	0	0	0	0	0
Total	0	0	0	0	0
Other industrial ^a					
Softwood	16,733	6,653	8,216	1,864	0
Hardwood	129	29	72	28	0
Total	16,862	6,682	8,288	1,892	0
Total					
Softwood	149,858	51,834	56,983	29,376	11,665
Hardwood	11,961	7,578	2,538	1,841	4
Total	161,819	59,412	59,521	31,217	11,669

^a Includes poles, pilings, posts, and other industrial products.

Table 14—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Florida, 1993 and 1995

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1993	1995	1993	1995	1993	1995	1993	1995	1993	1995
<i>Thousand cubic feet</i>										
Fiber products										
Softwood	50,812	43,344	0	0	47,427	43,072	1,562	50	1,823	222
Hardwood	1,162	1,378	0	0	1,162	1,378	0	0	0	0
Total	51,974	44,722	0	0	48,589	44,450	1,562	50	1,823	222
Particleboard										
Softwood	2,351	6,317	0	0	0	43	271	1,863	2,080	4,411
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	2,351	6,317	0	0	0	43	271	1,863	2,080	4,411
Composite panels										
Softwood	0	0	0	0	0	0	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Sawn products										
Softwood	1,966	2,910	0	0	1,966	2,910	0	0	0	0
Hardwood	0	28	0	0	0	28	0	0	0	0
Total	1,966	2,938	0	0	1,966	2,938	0	0	0	0
Fuel										
Softwood	85,392	75,273	48,691	43,158	3,949	3,354	25,780	22,886	6,972	5,875
Hardwood	8,283	9,124	6,914	7,354	360	493	970	1,274	39	3
Total	93,675	84,397	55,605	50,512	4,309	3,847	26,750	24,160	7,011	5,878
Miscellaneous										
Softwood	21,677	21,838	5,887	8,602	8,004	7,533	5,225	4,546	2,561	1,157
Hardwood	892	1,350	131	224	355	580	404	545	2	1
Total	22,569	23,188	6,018	8,826	8,359	8,113	5,629	5,091	2,563	1,158
Not used										
Softwood	108	175	29	73	64	71	15	31	0	0
Hardwood	0	82	0	1	0	59	0	22	0	0
Total	108	257	29	74	64	130	15	53	0	0
All products										
Softwood	162,306	149,858	54,607	51,834	61,410	56,983	32,853	29,376	13,436	11,665
Hardwood	10,337	11,961	7,045	7,578	1,877	2,538	1,374	1,841	41	4
Total	172,643	161,819	61,652	59,412	63,287	59,521	34,227	31,217	13,477	11,669

Table 15—Roundwood timber products output by product and species group, Northeast Florida, 1993 and 1995

Product and species group	Year		Change	Percent change
	1993	1995		
Thousand cubic feet				
Saw logs				
Softwood	95,837	97,227	1,390	1.5
Hardwood	1,571	1,505	-66	-4.2
Total	97,408	98,732	1,324	1.4
Veneer logs				
Softwood	18,956	16,592	-2,364	-12.5
Hardwood	877	954	77	8.8
Total	19,833	17,546	-2,287	-11.5
Pulpwood ^a				
Softwood	159,214	157,180	-2,034	-1.3
Hardwood	21,570	24,137	2,567	11.9
Total	180,784	181,317	533	0.3
Composite panels				
Softwood	201	0	-201	-100.0
Hardwood	2,013	2,018	5	0.2
Total	2,214	2,018	-196	-8.9
Other industrial				
Softwood	14,520	14,137	-383	-2.6
Hardwood	218	140	-78	-35.8
Total	14,738	14,277	-461	-3.1
All industrial				
Softwood	288,728	285,136	-3,592	-1.2
Hardwood	26,249	28,754	2,505	9.5
Total	314,977	313,890	-1,087	-0.3

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (6,589,000 cubic feet in 1993 and 4,455,000 cubic feet in 1995).

6—Roundwood timber products output by county, product, and species group, Northeast Florida, 1995

	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other indi
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
<i>Thousand cubic feet</i>											
l a	16,631	926	4,529	59	1,952	0	8,870	811	0	0	1,280
	12,285	281	5,380	0	976	19	5,452	262	0	0	477
	14,400	1,949	7,527	0	976	0	5,630	1,949	0	0	267
	8,561	440	3,982	0	976	0	3,207	440	0	0	396
	17,756	1,582	7,311	0	976	125	9,338	945	0	512	131
	17,539	5,025	5,817	380	976	125	9,657	4,520	0	0	1,089
	9,916	62	3,456	4	976	0	5,202	58	0	0	282
	10,455	711	4,689	0	976	0	4,389	711	0	0	401
	7,094	476	2,304	0	976	83	3,651	337	0	0	163
	7,635	786	2,696	0	0	0	4,079	786	0	0	860
1 2	6,292	816	2,654	0	976	41	2,384	775	0	0	278
	15,354	2,142	5,747	373	976	166	5,578	1,575	0	0	3,053
	8,526	3,458	3,378	0	0	91	4,444	2,373	0	994	704
	12,057	1,778	4,398	431	976	24	5,912	1,323	0	0	771
	22,266	1,125	11,233	3	0	0	9,151	1,122	0	0	1,882
	10,234	818	3,508	27	976	24	5,445	767	0	0	305
	10,396	867	1,401	3	976	0	7,851	864	0	0	168
	8,524	787	2,308	0	976	83	5,188	704	0	0	52
	48,048	3,787	7,183	225	0	125	40,061	2,925	0	512	804
	9,926	419	3,961	0	976	0	4,751	419	0	0	238
nties	11,241	519	3,765	0	0	48	6,940	471	0	0	536
	285,136	28,754	97,227	1,505	16,592	954	157,180	24,137	0	2,018	14,137

^a roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (4,455,000 cubic feet in 1995).

Table 17—Roundwood timber products output by product and species group, Northwest Florida, 1993 and 1995

Product and species group	Year		Change	Percent change
	1993	1995		
Thousand cubic feet				
Saw logs				
Softwood	47,235	41,443	-5,792	-12.3
Hardwood	2,735	4,407	1,672	61.1
Total	49,970	45,850	-4,120	-8.2
Veneer logs				
Softwood	9,522	7,755	-1,767	-18.6
Hardwood	327	483	156	47.7
Total	9,849	8,238	-1,611	-16.4
Pulpwood ^a				
Softwood	86,559	109,202	22,643	26.2
Hardwood	18,351	14,680	-3,671	-20.0
Total	104,910	123,882	18,972	18.1
Composite panels				
Softwood	159	0	-159	-100.0
Hardwood	568	994	426	75.0
Total	727	994	267	36.7
Other industrial				
Softwood	1,973	3,629	1,656	83.9
Hardwood	94	91	-3	-3.2
Total	2,067	3,720	1,653	80.0
All industrial				
Softwood	145,448	162,029	16,581	11.4
Hardwood	22,075	20,655	-1,420	-6.4
Total	167,523	182,684	15,161	9.1

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (5,362,000 cubic feet in 1993 and 1,080,000 cubic feet in 1995).

8—Roundwood timber products output by county, product, and species group, Northwest Florida, 1995

	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other ind
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
Thousand cubic feet											
a	15,683	370	3,378	249	0	0	12,185	121	0	0	120
	16,486	2,990	3,685	1,530	935	16	11,658	1,444	0	0	208
	11,717	689	4,844	0	500	30	6,123	659	0	0	250
	6,510	2	1,463	0	0	0	4,991	2	0	0	56
	10,763	2,269	1,024	493	1,169	166	8,437	1,592	0	0	133
	6,104	441	1,258	325	0	16	4,723	100	0	0	123
i	7,174	1,521	3,256	204	0	63	3,764	1,254	0	0	154
	15,623	2,048	5,112	687	818	63	9,421	1,298	0	0	272
	6,538	3,315	2,440	147	935	0	3,160	2,174	0	994	3
	4,964	1,364	2,082	139	0	33	2,787	1,119	0	0	95
	8,705	879	1,198	362	584	0	6,783	517	0	0	140
	10,652	449	1,505	0	690	33	8,267	416	0	0	190
osa	13,943	346	2,167	0	690	0	9,686	346	0	0	1,400
ton	4,941	374	2,382	0	584	0	1,810	374	0	0	165
	12,647	985	2,542	0	500	0	9,447	985	0	0	158
	9,579	2,613	3,107	271	350	63	5,960	2,279	0	0	162
nties	162,029	20,655	41,443	4,407	7,755	483	109,202	14,680	0	994	3,629

^a Roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (1,080,000 cubic feet in 1995).

Table 19—Roundwood timber products output by product and species group, Central and South Florida, 1993 and 1995

Product and species group	Year		Change	Percent change
	1993	1995		
Thousand cubic feet				
Saw logs				
Softwood	4,972	8,186	3,214	64.6
Hardwood	59	166	107	181.4
Total	5,031	8,352	3,321	66.0
Veneer logs				
Softwood	0	0	0	0
Hardwood	355	365	10	2.8
Total	355	365	10	2.8
Pulpwood ^a				
Softwood	16,599	14,535	-2,064	-12.4
Hardwood	1,463	1,277	-186	-12.7
Total	18,062	15,812	-2,250	-12.5
Composite panels				
Softwood	0	0	0	0
Hardwood	0	0	0	0
Total	0	0	0	0
Other industrial				
Softwood	12,302	5,931	-6,371	-51.8
Hardwood	24	0	-24	-100.0
Total	12,326	5,931	-6,395	-51.9
All industrial				
Softwood	33,873	28,652	-5,221	-15.4
Hardwood	1,901	1,808	-93	-4.9
Total	35,774	30,460	-5,314	-14.9

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (385,000 cubic feet in 1993 and 463,000 cubic feet in 1995).

0—Roundwood timber products output by county, product, and species group, Central and South Florida, 1995

	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other indi
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood
Thousand cubic feet											
e	721	44	167	0	0	0	554	44	0	0	0
	176	0	0	0	0	0	176	0	0	0	0
	501	27	23	27	0	0	346	0	0	0	132
	1,673	405	302	0	0	24	1,371	381	0	0	0
	36	3	5	0	0	0	31	3	0	0	0
	1	0	0	0	0	0	1	0	0	0	0
	170	0	61	0	0	0	109	0	0	0	0
	2,296	43	37	43	0	0	2,196	0	0	0	63
	207	38	33	38	0	0	174	0	0	0	0
	723	0	0	0	0	0	723	0	0	0	0
o	1,702	270	359	58	0	0	1,254	212	0	0	89
ls	547	0	0	0	0	0	0	0	0	0	547
ough	570	153	135	0	0	149	410	4	0	0	25
iver	56	0	0	0	0	0	56	0	0	0	0
bee	2,279	133	755	0	0	48	910	85	0	0	614
	293	0	0	0	0	0	161	0	0	0	132
	144	0	16	0	0	0	128	0	0	0	0
	4	0	0	0	0	0	4	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
	60	0	0	0	0	0	60	0	0	0	0
	1,082	0	195	0	0	0	598	0	0	0	289
	4,473	29	1,497	0	0	29	612	0	0	0	2,364
	5	0	0	0	0	0	5	0	0	0	0
	2,539	296	1,093	0	0	101	931	195	0	0	515
ach	4	0	0	0	0	0	4	0	0	0	0
	3,897	0	2,549	0	0	0	656	0	0	0	692
	176	0	0	0	0	0	176	0	0	0	0
	506	0	76	0	0	0	430	0	0	0	0
	1,452	0	107	0	0	0	1,070	0	0	0	275
	2,359	367	776	0	0	14	1,389	353	0	0	194
nties	28,652	1,808	8,186	166	0	365	14,535	1,277	0	0	5,931

^a Roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (463,000 cubic feet in 1995).

Table 21—Total roundwood output by product, species group, and source of material, Florida, 1995

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
Thousand cubic feet					
Saw logs					
Softwood	146,856	141,399	130,327	11,072	5,457
Hardwood	6,078	6,051	5,562	489	27
Total	152,934	147,450	135,889	11,561	5,484
Veneer logs and bolts					
Softwood	24,347	23,966	23,658	308	381
Hardwood	1,802	1,796	1,796	0	6
Total	26,149	25,762	25,454	308	387
Pulpwood					
Softwood	280,917	257,759	76,538	181,221	23,158
Hardwood	40,094	31,761	21,164	10,597	8,333
Total	321,011	289,520	97,702	191,818	31,491
Composite panel					
Softwood	0	0	0	0	0
Hardwood	3,012	2,386	1,590	796	626
Total	3,012	2,386	1,590	796	626
Poles and posts					
Softwood	8,475	7,945	6,102	1,843	530
Hardwood	0	0	0	0	0
Total	8,475	7,945	6,102	1,843	530
Other miscellaneous					
Softwood	15,222	11,603	9,775	1,828	3,619
Hardwood	231	219	26	193	12
Total	15,453	11,822	9,801	2,021	3,631
Total industrial products					
Softwood	475,817	442,672	246,400	196,272	33,145
Hardwood	51,217	42,213	30,138	12,075	9,004
Total	527,034	484,885	276,538	208,347	42,149
Fuelwood					
Softwood	3,928	2,932	2,604	328	996
Hardwood	22,752	9,604	6,510	3,094	13,148
Total	26,680	12,536	9,114	3,422	14,144
All products					
Softwood	479,745	445,604	249,004	196,600	34,141
Hardwood	73,969	51,817	36,648	15,169	22,152
Total	553,714	497,421	285,652	211,769	56,293

Table 22—Total roundwood output by species group, survey unit, and ownership, Florida, 1995

Species group and survey unit	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwoods					
Northeast	287,492	9,488	9,596	173,308	95,100
Northwest	163,367	5,878	14,432	56,503	86,554
Central and South	28,886	187	5,185	0	23,514
Total softwoods	479,745	15,553	29,213	229,811	205,168
Hardwoods					
Northeast	41,390	192	3,039	20,336	17,823
Northwest	29,923	22	1,132	4,043	24,725
Central and South	2,657	0	248	0	2,409
Total hardwoods	73,969	214	4,419	24,379	44,957
All species	553,714	15,767	33,632	254,190	250,125

Table 23—Total roundwood output by species group, detailed species group, and product, Florida, 1995

Species group and detailed species group	Product							
	Total	Saw log	Veneer	Pulpwood	Composite panel	Fuelwood	Poles and posts	Other miscellaneous
<i>Thousand cubic feet</i>								
Softwood								
Cedar	456	121	31	292	0	4	7	3
Longleaf-slash pine	373,673	114,851	18,883	220,702	0	3,060	6,689	9,489
Loblolly-shortleaf pine	41,972	11,979	2,679	25,295	0	344	631	1,045
Other yellow pines	32,713	8,654	1,786	20,532	0	267	702	772
Cypress	30,931	11,252	969	14,097	0	253	447	3,914
Total softwoods	479,745	146,856	24,347	280,917	0	3,928	8,475	15,222
Hardwood								
Soft maple	2,342	104	80	1,309	135	709	0	6
Hard maple	280	13	6	144	39	78	0	0
Other birch	33	1	0	20	0	11	0	1
Hickory	1,730	188	37	915	49	538	0	3
Beech	1,139	397	4	375	0	364	0	0
Ash	809	110	45	386	9	256	0	3
Sweetgum	7,065	559	122	3,870	323	2,163	0	27
Yellow-poplar	1,162	269	20	501	0	371	0	1
Blackgum-tupelo	10,078	463	250	5,632	708	3,015	0	10
Black cherry	353	19	12	187	28	105	0	2
Select white oaks	770	191	6	327	0	246	0	0
Other white oaks	6,541	145	132	4,048	162	2,042	0	13
Select red oaks	363	15	12	219	0	116	0	1
Other red oaks	27,659	2,340	622	14,983	1,100	8,515	0	98
Basswood	148	13	5	82	0	47	0	1
Elm	682	39	20	399	9	215	0	1
Other Eastern hardwoods	12,816	1,212	429	6,699	450	3,963	0	63
Total hardwoods	73,969	6,078	1,802	40,094	3,012	22,752	0	231
All species	553,714	148,068	26,149	321,011	3,012	26,680	8,475	15,453

Table 24—Total roundwood output by species group, detailed species group, and ownership, Florida, 1995

Species group and detailed species group	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwood					
Cedar	456	61	24	105	266
Longleaf-slash pine	373,673	10,565	22,289	187,453	153,366
Loblolly-shortleaf pine	41,972	795	2,735	18,904	19,538
Other yellow pines	32,713	3,858	2,621	10,761	15,472
Cypress	30,931	274	1,545	12,587	16,525
Total softwoods	479,745	15,553	29,213	229,811	205,168
Hardwood					
Soft maple	2,342	2	187	1,229	924
Hard maple	280	0	5	106	169
Other birch	33	0	16	3	14
Hickory	1,730	30	141	644	915
Beech	1,139	0	0	228	912
Ash	809	0	158	367	283
Sweetgum	7,065	10	339	2,370	4,346
Yellow-poplar	1,162	1	10	275	875
Blackgum-tupelo	10,078	2	363	4,793	4,920
Black cherry	353	0	26	81	246
Select white oaks	770	0	25	239	506
Other white oaks	6,541	2	458	742	5,339
Select red oaks	363	0	30	83	250
Other red oaks	27,659	82	2,000	10,086	15,491
Basswood	148	0	21	106	21
Elm	682	0	46	380	257
Other Eastern hardwoods	12,816	83	594	2,648	9,490
Total hardwoods	73,969	214	4,420	24,379	44,957
All species	553,714	15,767	33,632	254,190	250,124



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

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Johnson, Tony G.; Jenkins, Anne; Haxby, Tom S. 1997. Florida's timber industry—an assessment of timber product output and use, 1995. Resour. Bull. SRS-13. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 29 p.

In 1995, volume of roundwood removed from Florida's forests totaled 527 million cubic feet, 2 percent more than in 1993. Mill byproducts generated from primary manufacturers declined 6 percent to 162 million cubic feet. Almost all plant residues were used, primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 321 million cubic feet; saw logs ranked second at 153 million cubic feet; veneer logs were third with 26 million cubic feet. Total receipts increased 3 percent to 566 million cubic feet. The number of primary processing plants increased 113.

KEYWORDS: Pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

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